



## UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/606,964	06/27/2003	Takeshi Ikeda	22040-00016-US1	6325
30678	7590	11/10/2003	EXAMINER	
CONNOLLY BOVE LODGE & HUTZ LLP			CHOE, HENRY	
SUITE 800			ART UNIT	
1990 M STREET NW			PAPER NUMBER	
WASHINGTON, DC 20036-3425			2817	

DATE MAILED: 11/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/606,964

Applicant(s)

IKEDA ET AL.

Examiner

Henry K Choe

Art Unit

2817

-- Th MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 27 June 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 5-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 5-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
- 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
- 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) Z.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5, 6, 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Franca-Neto (Fig. 2).

Regarding claim 5, Franca-Neto (Fig. 2) discloses an amplifier circuit comprising a first n-channel MOSFET (M2), a second n-channel MOSFET (M1), and wherein the first n-channel MOSFET (M2) and second n-channel MOSFET (M1) are cascode coupled. As described above, Franca-Neto (Fig. 2) discloses all the limitations in the claim 1 except for that the first and second MOSFETs being p-type. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have replaced n-channel metal oxide semiconductor FETs with the p-channel metal oxide semiconductor FETs, since this reversal of parts involves only routine skill in the art (see MPEP 2144.04 VI A).

Regarding claim 6, Franca-Neto (Fig. 2) further discloses an amplifier circuit comprising a first n-channel MOSFET (M2) which amplifies an inputted signal (SIGNAL INPUT), a second n-channel MOSFET (M1) which controls AGC signal outputted from the first n-channel MOSFET (M2), and a tuning circuit (48, 52, M3, 54) which amplifies the signal outputted from the second n-channel MOSFET (M1).

Regarding claims 8 and 9, as described above, Franca-Neto (Fig. 2) discloses all the limitations in the claim 8 except for that the channel area of the p-channel MOSFET is greater than a predetermined value. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have implemented the specific channel area of the p-channel MOSFET, since they are based on the routine experimentation to obtain the optimum operating parameters.

Claims 7 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Franca-Neto (Fig. 2) in view of Luo et al (Fig. 2).

Regarding claim 7, as described above, Franca-Neto (Fig. 2) discloses all the limitations in the claim 7 except for that a capacitor for cutting a DC component and a resistor for giving the first p-channel MOSFET an appropriate bias. Luo et al (Fig. 2) discloses an amplifier circuit comprising a capacitor (20) which removes the DC components and a resistor (24) which gives a first n-channel MOSFET (12a) an appropriate bias. It would have been obvious to one of ordinary skill in the art, at the time the invention was made would have found it obvious to have employed the capacitor and resistor at the gate of the first n-channel MOSFET of the amplifier of Franca-Neto (Fig. 2), such as taught by Luo et al (Fig. 2) in order to provide the advantageous benefit of removing the DC components and providing appropriate bias of the gain of the amplifier. Which are well known in the art.

Regarding claim 10, as described above, Franca-Neto (Fig. 2) in view of Luo et al (Fig. 2) discloses all the limitations in the claim 10 except for that the channel area of the p-channel MOSFET is greater than a predetermined value. It would have been

obvious to one of ordinary skill in the art at the time the invention was made to have implemented the specific channel area of the p-channel MOSFET, since they are based on the routine experimentation to obtain the optimum operating parameters.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Patent numbers (4,520,324; 6,636,119) are the cascode amplifiers with the tuning circuits.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Henry Choe whose telephone number is (703) 305-0576.

  
**HENRY CHOE**  
**PRIMARY EXAMINER**

#763